UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,267	01/12/2001	Stefano Faccinn	017.38448PX2	4056

7590 09/08/2005

ROBERT M. BAUER, ESQ.
BROWN, RAYSMAN, MILLSTEIN,
FELDER & STEINER, LLP
900 THIRD AVENUE
NEW YORK, NY 10022

EXAMINER	
MOORE, IAN N	
ART UNIT	**PAPER NUMBER**
2661	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/758,267	FACCINN ET AL..	
	Examiner	Art Unit	
	Ian N. Moore	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,19-39* is/are rejected.

7)☒ Claim(s) *18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1,2,5, 14,18,24-28,38 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Deakin (U.S. 6,463,275).

Regarding claim 1, Deakin discloses a method for coordinating charging information in a communications network (see FIG. 2, Charging Architecture of BCI of the GSM/GPRS cellular network FIG. 1), the method comprising:

a mobile station (see FIG. 1, TE; see FIG. 2, MS) initiating a first connection (see FIG 1, a connection between TE and GGSN) in an application layer network (see FIG. 1, PDN, packet data network) and a second connection (see FIG. 1, a connection between TE and GGSN via SGSN) in a transportation layer network (see FIG. GPRS network; see FIG. 7, subscriber initiates request service for connections; see col. 4, lines 50-54);

generating a charging identification (see col. 4, lines 19-50; BCI, Bill Class Identifier) in a first network element (see FIG. 1, GGSN or SGSN; see FIG. 2, NE2; see col. 3, lines 24-33; note that BCI is generated at the NEs when the connection is requested/initiated for

billing/charging) in one of the application layer network or transport layer network (see FIG. 1, PDN network or GPRS network);

sending said charging identification from said first network element (see FIG. 2, CDR's with BCI) in one of said one of the application layer network or the transport layer network (see FIG. 1, PDN network or GPRS network) to a second network element (see FIG. 1, CGF; see FIG. 2, Charging Gateway; see col. 3, lines 25-37; note that BCI is send from NE2 to Charging gateway. Also, note that per FIG. 1, BCI can be also routed back to NE1 along with the response to connection signaling message from remote TE; see col. 3, lines 15-18) in the other one of the application layer or the transport layer network (see FIG. 1, PDN network or GPRS network);

including said charging identification in call records (see col. 3, lines 33-36; note that Call Detailed Records, CDR includes BCI) of said first and second network elements (see col. 3, lines 29-39; note that upon connection initiation, CDR's with BCI is send from NE2 to charging gateway, thus CDR includes NE2 records. Similarly, NE1 also sends CDR to appropriate billing system, thus CDR includes NE1 records. Also, since it is possible to include CDR of NE2 records in the response to connection signaling message from NE2 to NE1, NE1 can also includes NE1 and NE2 CDRs); and

coordinating charging information in the communications network using said charging identification included in the call records of said first and second network elements (see FIG. 7, note that the each network node records usage is forwarded to the charging gateway, the charging gateway coordinates/associates the billing/charging information by using BCI included in CDR of the nodes; see col. 3, line 30-64; see col. 4, lines 14-55).

Regarding claim 2, Deakin discloses wherein said second network element adds said charging identification to charging information which said second network element collects (see col. 3, lines 29 to col. 4, lines 67; see FIG. 7).

Regarding claim 5, Deakin discloses charging identification is sent from said first network element to said second network element directly via an interface (see FIG. 1, an interface between GGSN and CFG; see FIG. 2, an interface between NE2 and charging gateway) between the transport (see FIG. 1, GPRS network) and application layer networks (see FIG. 1, PDN network); see col. 3, lines 15-23.

Regarding claim 14, Deakin discloses wherein the first network element (see FIG. 1, SGSN/GGSN; see FIG. 2, NE1 or NE2) is in said transport layer (see FIG. 1, GPRS network).

Regarding claim 19, Deakin discloses wherein the charging identification comprises a tuple or tuple pair (see col. 4, lines 14-50; note that BCI comprises a tuple of billing class identifiers).

Regarding claim 24, Deakin discloses a system for coordinating charging information in a communications network (see FIG. 2, Charging Architecture of BCI of the GSM/GPRS cellular network FIG. 1), the system comprising:

a first network element (see FIG. 1, SGSN/GGSN; FIG. 2, NE2) and a second network element (see FIG. 1, CGF; see FIG. 2, Charging Gateway), adapted to include a charging identification in their call records (see col. 3, lines 33-36; Call Detailed Records, CDR, includes BCI; see col. 3, lines 29-39);

means for coordinating charging information using said charging identification included in the call records of said first and second network elements (see FIG. 7, the charging gateway coordinates/associates the billing/charging information by using BCI included in CDR of the nodes; see col. 3, line 30-64; see col. 4, lines 14-55);

means for establishing a first connection (see FIG 1, a connection between TE and GGSN) in an application layer network (see FIG. 1, PDN, packet data network) and a second connection (see FIG. 1, a connection between TE and GGSN via SGSN) in a transport layer network (see FIG. GPRS network; see FIG. 7, subscriber initiates request service for connections; see col. 4, lines 50-54), said first network element being adapted to create the charging identification (see col. 4, lines 19-50; BCI, Bill Class Identifier; see col. 3, lines 24-33; note that BCI is generated at the NEs when the connection is requested/initiated for billing/charging) in one of the application layer network or transport layer network (see FIG. 1, PDN network or GPRS network); and

means for sending said charging identification from said first network element (see FIG. 2, CDR's with BCI) in said one of the application layer network or transport layer network (see FIG. 1, PDN network or GPRS network) to the second network element (see FIG. 1, CGF; see FIG. 2, Charging Gateway; see col. 3, lines 25-37; note that BCI is send from NE2 to Charging gateway. Also, note that per FIG. 1, BCI can be also routed back to NE1 along with the response to connection signaling message from remote TE; see col. 3, lines 15-18) in said one of the other application layer network or transport layer network (see FIG. 1, PDN network or GPRS network).

Regarding claim 25, Deakin discloses a mobile station (see FIG. 1, TE; see FIG. 2, MS) operable to initiate a first connection (see FIG 1, a connection between TE and GGSN) in an application layer network (see FIG. 1, PDN, packet data network) and a second connection (see FIG. 1, a connection between TE and GGSN via SGSN) in a transportation layer network (see FIG. GPRS network; see FIG. 7, subscriber initiates request service for connections; see col. 4, lines 50-54).

Regarding claim 26, Deakin discloses wherein the charging identification comprises a tuple or tuple pair (see col. 4, lines 14-50; note that BCI comprises a tuple of billing class identifiers).

Regarding Claim 27, the claim, which has substantially disclosed all the limitations of the respective claim 5. Therefore, it is subjected to the same rejection.

Regarding Claim 28, Deakin discloses the first network element comprises a Gateway GPRS Support Node (see FIG. 1, SGSN), and the second network element comprises a Call State Control Function (see FIG. 1, CGF, charging gateway Functional; see col. 3, lines 15-24).

Regarding claim 38, Deakin discloses a network element for use in coordinating charging information (see FIG. 1, SGSN/GGSN; FIG. 2, NE 1 or NE 2), the network element including:

means to create a charging identification (see col. 4, lines 19-50; BCI, Bill Class Identifier; note that BCI is generated at the NEs when the connection is requested/initiated for billing/charging) for use in one of an application layer network or a transport layer network for a communication network (see FIG. 1, PDN network or GPRS network),

wherein a first connection (see FIG 1, a connection between TE and GGSN) is established in the application layer network (see FIG. 1, PDN, packet data network) and a second connection (see FIG. 1, a connection between TE and GGSN via SGSN) is established in the transport layer network (see FIG. GPRS network; see FIG. 7, subscriber initiates request service for connections; see col. 4, lines 50-54);

means to include the charging identification the call records thereof (see col. 3, lines 33-36; note that Call Detailed Records, CDR includes BCI) and

means for sending said charging identification from said network element so as to be used by the further network element (see col. 3, lines 25-37; note that BCI is send from NE2 to Charging gateway so that charging gateway can be used the BCI for billing. Alternatively, note that per FIG. 1, BCI can be also routed back to NE1 along with the response to connection signaling message from remote TE; see col. 3, lines 15-18) in one of the application layer network or transport layer network (see FIG. 1, PDN network or GPRS network);

to enable charging information for the elements to be coordinated (see FIG. 7, the charging gateway coordinates/associates the billing/charging information by using BCI included in CDR of the nodes; see col. 3, line 30-64; see col. 4, lines 14-55) in one of the other application layer network or transport layer network (see FIG. 1, PDN network or GPRS network).

Regarding claim 39, Deakin discloses a network element for use in coordinating charging information (see FIG. 1, SGSN/GGSN/CGF; FIG. 2, NE 1, NE 2, or Charging gateway), the network element being configured for use in one of one of the application layer

network or transport layer network (see FIG. 1, PDN network or GPRS network) for the communication network

wherein a first connection (see FIG 1, a connection between TE and GGSN) is established in the application layer network (see FIG. 1, PDN, packet data network) and a second connection (see FIG. 1, a connection between TE and GGSN via SGSN) is established in the transport layer network (see FIG. GPRS network; see FIG. 7, subscriber initiates request service for connections; see col. 4, lines 50-54);

said network element being configured to receive said charging identification from a further network element (see FIG. 2, NE 1 or NE 2; see col. 3, lines 25-37; note that Charging gateway receives BCI in order to use BCI for billing. Alternatively, note that per FIG. 1, NE1 can also receive BCI along with the response to connection signaling message from remote TE see col. 3, lines 15-18) in one of the other application layer network or transport layer network (see FIG. 1, PDN network or GPRS network);

to enable charging information for the elements to be coordinated (see FIG. 7, the charging gateway coordinates/associates the billing/charging information by using BCI included in CDR of the nodes; see col. 3, line 30-64; see col. 4, lines 14-55).

3. Claim 3,4,6,8-13, 15-17,22, and 29-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deakin and further in view of Cobo (U.S. 6,496,690).

Regarding claim 33, Deakin discloses a mobile station (see FIG. 2, MS) for use to coordinate charging information in a communications network including

a first network element (see FIG. 1, SGSN/GGSN; FIG. 2, NE2) and a second network element (see FIG. 1, CGF; see FIG. 2, Charging Gateway) operable to include a charging identification in their call records (see col. 3, lines 33-36; Call Detailed Records, CDR, includes BCI; see col. 3, lines 29-39); and

means for coordinating charging information using said charging identification included in the call records of said first and second network elements (see FIG. 7, note that the each network node records usage is forwarded to the charging gateway, the charging gateway coordinates/associates the billing/charging information by using BCI included in CDR of the nodes; see col. 3, line 30-64; see col. 4, lines 14-55), the mobile station (see FIG. 1, TE; see FIG. 2, MS) is adapted:

to establish a first connection (see FIG 1, a connection between TE and GGSN) in an application layer network (see FIG. 1, PDN, packet data network) and a second connection (see FIG. 1, a connection between TE and GGSN via SGSN) in a transportation layer network (see FIG. 1, GPRS network; see FIG. 7, subscriber initiates establishes service for connections; see col. 4, lines 50-54);

to receive the connection message (see FIG. 7, a message) from the first network element in one of the application layer network or the transport layer network (see FIG. 1, PDN network or GPRS network; see FIG. 7, subscriber transmits/receives a connection message with GGSN/SGSN; see col. 4, lines 50-54);

to send said information, to the second network element in the other one of the application layer network or transport layer network (see FIG. 1, PDN network or GPRS

network; see FIG. 7, subscriber transmits/receives a message with charging gateway via GGSN/SGSN; see col. 4, lines 50-54).

Deakin does not explicitly disclose a mobile unit receives the charging identification from the first network element; and send said changing identification to the second network element.

However, Cobo teaches a mobile unit (see FIG. 4, MT 15) to receive the charging identification (see FIG. 4, Create PDP context Response 84 and subsequent Active PDP context accept response 85; see FIG. 6B, Charging ID of the PDP context message 70) from the first network element (see FIG. 4, GGSN 25) in one of the application layer network or the transport layer network (see FIG. 1, Internet 26 or GPRS network; see col. 4, lines 24-35; see col. 5, lines 1-12); and

to send said charging identification (see FIG. 4, activate PDP context request 81 and subsequent create PDP context request 83; see FIG. 5 and 6B, Charging ID of the PDP context message 70 and 83), to the second network element (see FIG. 4, SGSN 12); see col. 7, lines 43-59; 64-67).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a mobile station to send and receive PDP context containing charging ID, as taught by Cobo in the system of Deakin, so that it would provide a standardized method of providing a near real time account balance for subscriber's account and stopping the service when the balance reaches to zero; see Cobo col. 2, line 5-14, 15-56; see col. 3, lines 34-39. Note that by supplying the mobile unit with the charging ID, it will alert the subscriber regarding the account balance in near real time, and it will also benefit

the service provider since the service provider can easily termite the calls as soon as the balance is zero.

Regarding claim 3, Deakin discloses wherein said first network element sends with said charging identification to said second network element as described above in claim 1.

Deakin does not explicitly disclose sending an address of a network element together with said charging identification. However, Cobo teaches the first network element (see FIG. 1, SGSN 12) sending an address of the first network element (see FIG. 5, a PDP context message 83 with SGSN address) together with said charging identification (see FIG. 5, a PDP context message 83 with Charging Id) to said second network element (see FIG. 1, GGSN 25; see FIG. 4, create PDP context request; see col. 7, lines 59-62). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a PDP message which comprises both charging ID and the network element address between the network elements, as taught by Cobo in the system of Deakin, so that it would provide a standardized mechanism for stopping the service of the subscriber when the balance reaches to zero; see Cobo col. 2, line 5-14, 15-56; see col. 3, lines 34-39. Also, by incorporating charging ID and network element address, it will increase the service provider ability to identify each connection associated with the node's address for billing, and it is already defined by the standards for routing PDP messages.

Regarding claim 4, Deakin discloses wherein said second network element adds said charging identification to charging information which said second network element collects (see col. 3, lines 29 to col. 4, lines 67; see FIG. 7). Cobo discloses adding said address of a network element to charging information (see FIG. 5, SGSN address is added to the PDP

context message 83 which comprising Charging ID; see col. 7, lines 59-62). However, the above-mentioned claimed limitations are taught by Cobo. In view of this, having the system of Deakin, then given the teaching of Cobo, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Deakin, for the same modification as stated above in claim 3.

Regarding claims 6, Deakin discloses wherein the first network element (see FIG. 1, SGSN/GGSN) provides the charging information to both of the application layer network (see FIG. 1, PDN network) and the transport layer network (see FIG. 1, GRPS network) as described above in claim 1. Deakin further discloses Mobile Station provides the connection messages to both of the application layer network and the transport layer as described above in claim 1.

Deakin does not explicitly disclose the Mobile Station provides the charging identification. However, Cobo discloses the Mobile Station (see Cobo'690 FIG. 4, MT 15) provides the charging identification (see FIG. 5 and 6, Charging Id; see FIG. 4, Steps 81 and 85; note that charging ID is included in the PDP messages which are transmitted and received at the mobile terminal; see col. 7, lines 43-69).

Note that Deakin discloses the mobile unit providing/sending/receiving PDP messages to both application and transport layers. Cobo teaches PDP message comprising charging ID. In view of this, having the system of Deakin, then given the teaching of Cobo'690, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Deakin, by providing a mobile unit with the capability of proving the charging ID, for the same modification as stated above in claim 33.

Regarding claim 8, Deakin sends charging identification from first network element to said second network elements as described above in claim 1.

Deakin does not explicitly disclose sending security information. However, Cobo discloses wherein said first network element (see FIG. 4, SGSN12) sends security information together with said charging identification to said second network element (see FIG. 4, GGSN 25 receiving PDP message 83 and transmitting PDP message 84; see FIG. 5 and 6, PDP message includes the security information (i.e. IMSI, NSAPI, PDP address, and etc.) and charging ID to SGSN 12).

In view of this, having the system of Deakin, then given the teaching of Cobo, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Deakin, for the purpose of providing a PDP message which comprises both charging ID and the network element security information between the network elements, as taught by Cobo, since Cobo'690 states the advantages/benefits at col. 3, lines 34-39 that it would provide a mechanism for stopping the service of the subscriber when the balance reaches to zero. The motivation being that by incorporating charging ID and security information, it will increase the service provider ability to identify each connection associated with the node's address for billing and security, and it is already defined by the standards for routing PDP messages.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a PDP message which comprises both charging ID and the network element security information between the network elements, as taught by Cobo in the system of Deakin, so that it would provide a standardized method of stopping the

service when the balance reaches to zero; see Cobo col. 2, line 5-14, 15-56; see col. 3, lines 34-39. Note that by incorporating charging ID and security information, it will increase the service provider ability to identify each connection associated with the node's address for billing and security, and it is already defined by the standards for routing PDP messages.

Regarding claim 9, Deakin teaches sending charging information from the first network element to second network element as described above in claim 1 and 8. Cobo teaches the second network element verifies charging information against said security information (FIG. 2 step 82 across the network; see col. 7, lines 45-53; charging ID and the IMSI, NSAPI, PDP address, and etc. are verified/authenticated as part of the security function).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Deakin, as taught by Cobo, by assigning the second network element to perform verification regarding security and billing for the same motivation as described above in claim 8.

Regarding claim 10, Deakin sends charging information messages from first network element, to said second network element and end point of a communication as described above in claim 1.

Deakin does not explicitly disclose said second network element sends said charging identification towards an endpoint of a communication. However, Cobo discloses said second network element (see FIG. 4, SGSN 12) sends said charging identification (see FIG. 5 and 6, with charging ID embedded within PDP message) towards an endpoint of a communication (see FIG. 4, MT 15 or GGSN 25; see col. 7, lines 43-67).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a PDP message which comprises both charging ID and SGSN is sending towards either MT or GGSN end points, as taught by Cobo in the system of Deakin, so that it would provide a standardized method of providing a near real time account balance for subscriber's account and stopping the service when the balance reaches to zero; see Cobo col. 2, line 5-14, 15-56; see col. 3, lines 34-39. Note that by supplying the mobile unit with the charging ID, it will alert the subscriber regarding the account balance in near real time, and it will also benefit the service provider (i.e. GGSN) since the service provider can easily termite the calls as soon as the balance is zero.

Regarding claim 11, the combined system Deakin and Cobo discloses sending charging information messages from said second network elements as described above in claim 10. Cobo teaches wherein said second network element sending security information (see FIG. 5 and 6, security identification, i.e. IMSI, NSAPI, PDP address, and etc.) together with said charging identification (see FIG. 5 and 6, Charging ID) toward said endpoint of a communication network (see FIG. 4, GGSN 25 or MT 15; steps 83 and 85; note that SGSN sends security identification together with the charging ID towards either GGSN or MT); see col. 7, lines 43-67).

In view of this, having the combined system of Deakin and Cobo, then given the teaching of Cobo, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Deakin and Cobo, for the same motivation as described above in claim 10 and 8.

Regarding claim 12, the combined system Deakin and Cobo sends charging information messages from said second network elements as described above in claim 1 and 10. Cobo teaches wherein said second network element sends an address of a network element (see FIG. 5 and 6, SGSN address) together with said charging identification (see FIG. 5 and 6, Charging ID) toward said endpoint of a communication network (see FIG. 4, GGSN 25 or MT 15; steps 83 and 85; note that SGSN sends SGSN address together with the charging ID towards either GGSN or MT; col. 7, lines 59-62).Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Deakin and Cobo, for the same motivation as described above in claim 10 and 8.

Regarding claim 13, Cobo teaches wherein said second network element adds an address of a first network element (see FIG. 4, mobile station MT number, IMSI) to charging data which said second network element collects together with said charging identification (see FIG. 4, Active PDP context accept message 85 to MT 15; see col. 7, lines 55-64). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Deakin and Cobo, for the same motivation as described above in claim 10 and 8.

Regarding claim 15, Deakin discloses the charging identification is forward to said second network element in one of the application layer network or the transport layer network as descried above in claim 1.

Deakin does not explicitly disclose the second network element in said application layer. Cobo discloses wherein in charging identification (see FIG. 5, charging ID) is

forwarded to said second network element (see FIG. 4, GGSN 25) in said application layer network (see FIG. 1, Internet 26); see col. 7, lines 43-63. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Deakin and Cobo, for the same motivation as described above in claim 10.

Regarding claim 16, Deakin discloses wherein said charging identification is forward to a third network element (see FIG. 2, HLR) and a forth network element (see FIG. 2, Billing System A with BC=1) in said transport layer network (see FIG. 2, GPRS network); see col. 3, lines 24-50. Cobo also discloses wherein said charging identification is forward to a third network element (see FIG. 1, HLR 16) and a forth network element (see FIG. 1, AuC 17 (authentication center), PPC 19 (pre-paid center), or SPC 24 (SIM personalized center); see col. 4, lines 40 to col. 5, lines 55).

Regarding claim 17, Deakin discloses wherein charging information generated by said forth network element and said third network element in said transport layer network and by the second network element is associated with said charging identification (see FIG. 2, HLR, Billing system A and charging gateway associated the charging information with charging identification BCI=1; see col. 3, lines 15-65). Deakin discloses wherein charging information generated by said forth network element and said third network element in said transport layer network and by the second network element in said application layer network is associated with said charging identification (see FIG. 4, charging ID at SGSN to GGSN; see FIG. 6B, charring ID between HLR and SGSN; see FIG. 1, HLR, AuC 17 (authentication

center), PPC 19 (pre-paid center), or SPC 24 (SIM personalized center); see col. 4, lines 40 to col. 5, lines 55; see col. 7, lines 44-67).

Regarding claim 22, Deakin discloses wherein said charging identification is sent from said first network element to said second network element, and the mobile station sends a request to setup/initiate the connection in the other one of the application layer network or the transport layer network as described above in claims 1. Deakin further discloses wherein said charging identification is sent from said first network element to said second network element via the mobile (see FIG. 1, GGSN/SGSN forward the billing identification to Charging Gateway CGF, MSC/VLR, and/or HLR via TE/MT; see col. 3, lines 15-37).

Deakin does not explicitly disclose the mobile station includes the charging identification in a request. Cobo teaches the mobile station (see FIG. 4, MT 15) includes the charging identification in a request (see FIG. 4, Active PDP context message 81; see FIG. 5 and 6, Charging ID of the PDP context message 83 or 70; see col. 7, lines 43-67).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a mobile station to send and receive PDP context containing charging ID, as taught by Cobo in the system of Deakin, so that it would provide a standardized method of providing a near real time account balance for subscriber's account and stopping the service when the balance reaches to zero; see Cobo col. 2, line 5-14, 15-56; see col. 3, lines 34-39. Note that by supplying the mobile unit with the charging ID, it will alert the subscriber regarding the account balance in near real time, and it will also benefit the service provider since the service provider can easily termite the calls as soon as the balance is zero. Also, by routing the messages from the gateway primarily to the mobile

terminal before the setting the connection, it will alert and inform the mobile subscriber regarding the potential charging/billing information.

Regarding Claim 29, the claim, which has substantially disclosed all the limitations of the respective claim 22. Therefore, it is subjected to the same rejection.

Regarding claim 30, Deakin discloses said second network element comprises Call State Control Function as described above in claim 28.

Deakin does not explicitly disclose said second network element in said application layer. Cobo discloses said second network element (see FIG. 4, GGSN 25) in said application layer network (see FIG. 1, Internet 26); see col. 7, lines 43-63. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Deakin and Cobo, for the same motivation as described above in claim 10.

Regarding claim 31, Deakin discloses wherein said connection is said transport layer network as described above in claim 29. Cobo further discloses a PDP context (see FIG. 4, PDP context; see col. 7, lines 42-59). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide PDP context, as taught by Cobo in the system of Deakin, for the same motivation as described above in claim 22.

Regarding Claim 32, the claim, which has substantially disclosed all the limitations of the respective claim 6. Therefore, it is subjected to the same rejection.

Regarding claim 34, the combined system of Deakin and Cobo discloses wherein in the mobile station is adapted to receive the charging identification (Id) created by the first network element in one of the application layer network or the transport layer network as

described above in claim 33. Deakin discloses the first network element (GGSN) in one of the application layer network or the transport layer network. In view of this, having the combined system of Deakin and Cobo, then given the teaching of Cobo, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Deakin and Cobo, for the same motivation as described above in claim 33.

Regarding claim 35, the combined system of Deakin and Cobo discloses where in the mobile station is adapted to send to send to the second network element said received charging identification as described above in claim 33. Cobo further discloses sending an address corresponding to the first network element together with charging information (see FIG. 5 and 6; a PDP message comprising SGSN address, GGSN address, and Charging ID; see col. 7, lines 60-67). In view of this, having the combined system of Deakin and Cobo, then given the teaching of Cobo, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Deakin and Cobo, for the same motivation as described above in claim 33.

Regarding Claim 36, the claim, which has substantially disclosed all the limitations of the respective claim 6. Therefore, it is subjected to the same rejection.

Regarding claim 37, Deakin a mobile terminal and terminal equipment coupled thereto (see FIG. 1, MT and TE are coupled; see col. 3, lines 15-24).

Allowable Subject Matter

4. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments filed 7/5/2005 have been fully considered but they are not persuasive.

It is noticed that at various part of the argument, the applicant kept referring to a first office action as "...in previous office action.." A **second non-final** with new ground of rejections was sent, in accordance with the old and new/different views of previously cited references and new references, thus all rejections/issues raised by the first office action are moot in view of **second** non-final office action with new ground of rejections. Accordingly, the examiner will not response those arguments that refers back to the first office action.

Regarding claims 1,24,33,38 and 39, the applicant argued that, "..application layer network connection..**GGSN**..it is not corrections by saying that one of the connections are made via the **SGSN**..first and second connections do not appear to relate to an application layer network..the alleged first and second connection are confusing.." in page 9, paragraph 3.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **SGSN,**

GPRS, GGSN) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument, the examiner respectfully disagrees that the argument above.

Claim 1 recites, "an application layer network" which comprises any network or element that processes the application layer, and "a transportation layer network" which comprises any network or element that processes transportation/transport layer. Deakin a mobile station (see FIG. 1, TE; see FIG. 2, MS) initiating a first connection (see FIG 1, a connection between TE and GGSN) in an application layer network (see FIG. 1, PDN, packet data network) and a second connection (see FIG. 1, a connection between TE and GGSN via SGSN) in a transportation layer network (see FIG. GPRS network; see FIG. 7, subscriber initiates request service for connections; see col. 4, lines 50-54). Thus, Deakin clearly discloses a first connection is the "application layer" PDN network and a second connection is the "transport layer" GRPS network. Thus, examiner believes the first and second connection recited in the previous office action should be cleared to one skill in the ordinary art **since each connection is associated with the corresponding networks (i.e. PDN vs. GPRS networks)**. However, examiner has illustrated these connections below for further classification in accordance with FIG. 1,

a first connection → from/to TE (on the right hand side) ------ to/from GGSN (on PDN network)

a second connection → from/to TE (on the left hand side) ----via SGSN---- to/from GGSN (on GPRS network)

Regarding claims 1,24,33,38 and 39, the applicant argued that, "..Deakin is directed to only a **GSM/GPRS**, network..does not appear to include an **IP telephony** network...there is no billing between PDN and the GSM/GPRS network.."in page 9, paragraph 4.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **GSM/GPRS and IP telephony; billing between PDN and GSM/GPRS network**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding claims 1,24,33,38 and 39, the applicant argued that, "..there are no indication of GGSN or SGSN generates the BCI.."in page 10, paragraph 3.

In response to applicant's argument, the examiner respectfully disagrees the argument above. Deakin discloses generating a charging identification (see col. 4, lines 19-50; BCI, Bill Class Identifier) in a first network element (see FIG. 1, GGSN or SGSN; see FIG. 2, NE2; see col. 3, lines 24-33; note that BCI is generated at the NEs when the connection is requested/initiated for billing/charging) in one of the application layer network or transport layer network (see FIG. 1, PDN network or GPRS network).

Mover, by viewing FIG. 2, one can **clearly** see that NE 1 and NE 2 (i.e. GGSN and SGSN) generate BCI.

Regarding claims 1,24,33,38 and 39, the applicant argued that, "..there is no indication that BCI in Deakin is sent to a PDN or to any other network element in an application layer network.."in page 10, paragraph 3.

In response to applicant's argument, the examiner respectfully disagrees the argument above. Deakin discloses sending said charging identification from said first network element (see FIG. 2, CDR's with BCI) in one of said one of the application layer network or the transport layer network (see FIG. 1, PDN network or GPRS network) to a second network element (see FIG. 1, CGF; see FIG. 2, Charging Gateway; see col. 3, lines 25-37; note that BCI is send from NE2 to Charging gateway. Also, note that per FIG. 1, BCI can be also routed back to NE1 along with the response to connection signaling message from remote TE; see col. 3, lines 15-18) in the other one of the application layer or the transport layer network (see FIG. 1, PDN network or GPRS network).

Regarding claims 1,24,33,38 and 39, the applicant argued that, "..BCI is not used to coordinate charging information between the transport layer network and the application layer network.."in page 10, paragraph 4.

In response to applicant's argument, the examiner respectfully disagrees the argument above. Deakin discloses coordinating charging information in the communications network using said charging identification included in the call records of said first and second network elements (see FIG. 7, note that the each network node records usage is forwarded to the charging gateway, the charging gateway coordinates/associates the billing/charging information by using BCI included in CDR of the nodes; see col. 3, line 30-64; see col. 4, lines 14-55). Moreover, BCI (i.e. Billing Class Identifier) is send from NE2 (also see FIG. 1,

SGSN/GGSN) to Charging gateway (also see FIG. 1, CGF), and the nodes belongs to either PDN network or GPRS network, respectively. Thus, it is clear that the BCI is used to coordinate charging information between transport layer and application layer network.

Regarding claim 28, the applicant argued that, "..assertion is incorrect by referring to the discussion of a CSCF in the background of this application, they do not appear to relate to an application layer network.."in page 10, paragraph 4.

In response to applicant's argument, the examiner respectfully disagrees the argument above. Deakin discloses the second network element comprises a Call State Control Function (see FIG. 1, CGF, charging gateway Functional; see col. 3, lines 15-24). Note that the Deakin's background, summary, detailed description, drawing and claims are still part of the prior art disclosure, which anticipates the argued limitation.

Regarding claims 3,4,6,8-13,15-17,22,29-37, the applicant argued that, "..it does not establish a prima facie case that one of ordinary skill in the art would combine the two applied reference to arrive at the claimed invention.."in page 11, paragraph 2.

In response to applicant's argument, the examiner respectfully disagrees the argument above. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a mobile station to send

and receive PDP context containing charging ID, as taught by Cobo in the system of Deakin, so that it would provide a standardized method of providing a near real time account balance for subscriber's account and stopping the service when the balance reaches to zero; see Cobo col. 2, line 5-14, 15-56; see col. 3, lines 34-39. Note that by supplying the mobile unit with the charging ID, it will alert the subscriber regarding the account balance in near real time, and it will also benefit the service provider since the service provider can easily termite the calls as soon as the balance is zero.

Regarding claim 33, the applicant argued that, ".. there is no indication that the mobile terminal in Cobo receives charging information, or that the mobile station sends the charging information to another network element. There is no indication of **the address of security** information is sent by the mobile.."in page 11, paragraph 4.

In response to applicant's argument, the examiner respectfully disagrees the argument above.

Cobo teaches a mobile unit (see FIG. 4, MT 15) to receive the charging identification (see FIG. 4, Create PDP context Response 84 and subsequent Active PDP context accept response 85; see FIG. 6B, Charging ID of the PDP context message 70) from the first network element (see FIG. 4, GGSN 25) in one of the application layer network or the transport layer network (see FIG. 1, Internet 26 or GPRS network; see col. 4, lines 24-35; see col. 5, lines 1-12); and

to send said charging identification (see FIG. 4, activate PDP context request 81 and subsequent create PDP context request 83; see FIG. 5 and 6B, Charging ID of the PDP

context message 70 and 83), to the second network element (see FIG. 4, SGSN 12); see col. 7, lines 43-59; 64-67).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **address of security information**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding claim 30, the applicant argued that, "..GGSN in Cobo is not send charging identification..is not located in an application layer..."in page 11, paragraph 5.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument, the examiner respectfully disagrees the argument above. Deakin discloses GGSN is PDN network (i.e. application layer network) sending charging information. Cobo discloses GGSN sending charging information as recited in above response. Moreover, Cobo discloses said second network element (see FIG. 4, GGSN 25) in said application layer network (see FIG. 1, Internet 26); see col. 7, lines 43-63. Thus, the combined system of Deakin and Cobo discloses the argued limitations.

In view of the above, **the examiner respectfully disagrees** with applicant's argument and believes that the references as set forth in the 102 and 103 rejections are proper.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

INM
9/2/05

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600